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UNIVERSITY OF TORONTO
UNIVERSITY EXTENSION

DIRECTOR: J·R·GILLEY · B·A·Sc·

THE PRODUCTION OF IRON AND STEEL

October 1954 - March 1955

This Course deals with all phases of the manufacture of iron and steel products from the three basic raw materials, - iron ore, scrap and coal. The factors which contribute to make iron man's most useful metal are discussed at length. The blast furnace and open hearth processes for smelting iron ore and for converting pig iron into steel are discussed in some detail. Mention is also made of other steelmaking operations, such as the Bessemer and electric furnaces processes. Some of the factors that affect the quality of steel are considered. Finally, the methods by which steel ingots are converted to finished products, such as structural shapes, rails, plate, sheets, pipe, tubing and merchant mill products are described fully. Lectures are illustrated by the use of lantern slides and arrangements are made to visit one or two of the major steel plants in Canada and the United States.

The Course is designed not only for people employed directly in the manufacture of iron and steel products and who desire to increase their knowledge of the industry, but also for people employed in steel sales and other allied vocations.

LECTURER: Professor H.U. Ross, B.ENG., M.SC. MCG.,
Department of Metallurgical Engineering,
University of Toronto

Time: Tuesday evenings October 5th - December 7th
7.30 p.m. January 11th - March 15th

Place: Room 202, Mechanical Building

Fee: $25.00 - 20 lectures

Registration:

By mail or in person at Room 232, Simcoe Hall,
9 a.m. to 5 p.m. except Saturdays

PROGRAMME OF LECTURES ON REVERSE SIDE

TELEPHONE: MI 6611, LOCALS 18·21·22·23

"Lifelong Learning"

THE PRODUCTION OF IRON AND STEEL

1954 October 7th
INTRODUCTION and BASIC PRINCIPLES

October 14th
CONSTRUCTION and OPERATION OF THE BLAST FURNACE

October 21st
TYPES OF PIG IRON, THEIR COMPOSITION and USES

October 28th
IRON ORE - MINING, TRANSPORTATION and ECONOMICS

November 4th
FUELS IN THE STEEL INDUSTRY

November 11th
INTRODUCTION TO STEELMAKING

November 18th
THE BASIC OPEN-HEARTH PROCESS

November 25th
CONSTRUCTION and OPERATION OF THE OPEN-HEARTH FURNACE

December 2nd
THE ACID OPEN-HEARTH PROCESS; ELECTRIC-FURNACE STEELMAKING

December 9th
THE BESSEMER PROCESS; INGOTS and INGOT MOULDS

1955 January 6th
IRON and STEEL CASTINGS

January 13th
METALLOGRAPHY OF IRON and STEEL

January 20th
HEAT TREATMENT OF IRON and STEEL; TESTS

January 27th
THE IRON and STEEL FOUNDRY

February 3rd
SOAKING PITS; ROLLING MILLS; FORGINGS

February 10th
BLOOMING MILLS; CONTINUOUS MILLS; STRUCTURAL MILLS

February 17th
ROLLING OF RAILS and STRUCTURAL SHAPES; ROLL PASS DESIGN

February 24th
MERCHANT MILLS; WIRE DRAWING, MANUFACTURE OF WELDED PIPE and SEAMLESS TUBING

March 3rd
HOT ROLLING OF PLATES and SHEETS; MANUFACTURE OF HOT-ROLLED STRIP

March 10th
MANUFACTURE OF COLD-ROLLED STRIP; TEMPLATE and GALVANIZING